Diagnosis of Genital Chlamydia trachomatis Infections in Asymptomatic Males by Testing Urine by PCR

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An enzyme-linked immunosorbent assay (EIA) (MikroTrak; Syva) was compared with PCR (Ampli
cor; Roche) for detection of Chlamydia trachomatis in first-void urine (FVU) from 184 men attending a skin
and venereal disease clinic. The prevalence of C. trachomatis in the population studied was 18.5%. Discrepant
results between Syva EIA and Roche PCR were retested by using major outer membrane protein primer-based
PCR. After retesting, the sensitivity, the specificity, and the positive and negative predictive values for the Syva
EIA were 85.3, 100, 100, and 77.5%, respectively, and those for the Roche PCR 100, 100, 100, and 100%,
respectively. It was concluded that PCR provides a highly sensitive and specific noninvasive screening method
for genital chlamydial infection in asymptomatic men.

MATERIALS AND METHODS

Study population. FVU from asymptomatic males (n = 184) presenting at a skin and venereal disease clinic, for reasons
other than venereal disease, was collected. Patients were supplied with 20-ml urine tubes and were asked to return after
having collected their early-morning urine. The median age of the patients was 32 years.

Specimen collection and preparation. Fresh urine was divided into two aliquots of 10 ml each. One aliquot of urine was
immediately centrifuged at 1,500 × g for 15 min, and the pellet was resuspended in 1 ml of Syva MicroTrak specimen
treatment solution. The samples were kept at 4°C for ≤2 weeks before being investigated.

The other aliquot of urine was frozen at −20°C and kept for about 2 weeks until the PCR was done. Before the investigation,
urine was thawed at room temperature and then heated for 30 min at 37°C to dissolve any precipitate. Then the
specimens were vortexed (~1 min) and centrifuged at 1,500 × g for 10 min at room temperature. The supernatants
were replaced with 2 ml of Roche Amplicor urine resuspension buffer and kept for 1 h at room temperature. After 2 ml of
urine diluent had been added, the sample was left for 10 min at room temperature before amplification.

Testing of urine. EIA with the MicroTrak Chlamydia EIA

DISCUSSION

To detect genital chlamydial infection in males, culture tests require urethral sampling, which asymptomatic persons are
PCRs have been shown to be cost-effective for screening of adolescent males for *C. trachomatis* (10). Our study indicates that PCR is a suitable method for the detection of genital chlamydial infections in FVU samples from asymptomatic males.

### REFERENCES


